

User Manual

AC-EX150-BKT



150 m 1080p (100 m 4K) HDBaseT Extender w/ 4K60 support. Bi-Directional PoE, IR, and RS232.

Model Numbers:

AC-EX150-BT ~ HDBaseT Transmitter w/IR and RS-232

AC-EX150-BR ~ HDBaseT Receiver w/ IR and RS-232

Product Overview

AVPro Edge presents the quick-deployment 4K HDBaseT Extender Set. This set can deliver 4K signals over Category cable up to 100 meters (330 ft) and Full HD signals up to 150 meters (492ft). The AC-EX150-BKT features field-critical features, including Bi-Directional PoH (Power Over HDBaseT) and Bi-Directional RS232 for control.

Features

- HDMI 2.0
- 4K/60Hz 4:4:4
- HDCP 2.2 & earlier
- CEC Pas-through
- 150 m (492ft) @ 1080p (Cat 6A)
- Up to 100 m (330ft) @ 4K (Cat 6A)
- 24V DC PoH (Power Over HDBaseT; only one Power Supply Needed)
- 3-20 VDC protection circuit built in for safe IR transport
- Bidirectional RS-232 Transport
- LED Status, Link, Power indication lights
- To achieve long-distance transmission, use a single UTP/STP LAN cable (Cat 6A) with a substitute HDMI cable.
- Supports uncompressed PCM 2- Ch., LPCM 5.1 & 7.1, Dolby Digital, DTS, Dolby TrueHD, DTS HD-Master Audio, Dolby Atmos on HDMI

Whats in the box

- AC-EX150-BT (Transmitter)
- AC-EX150-BR (Receiver)
- 24V DC Power Supply (One supplied)
- 1 x IR Tx Unit
- 1 x IR Rx Unit
- 2x 3-pin Euroblocks for RS-232 Ports
- Mounting ears



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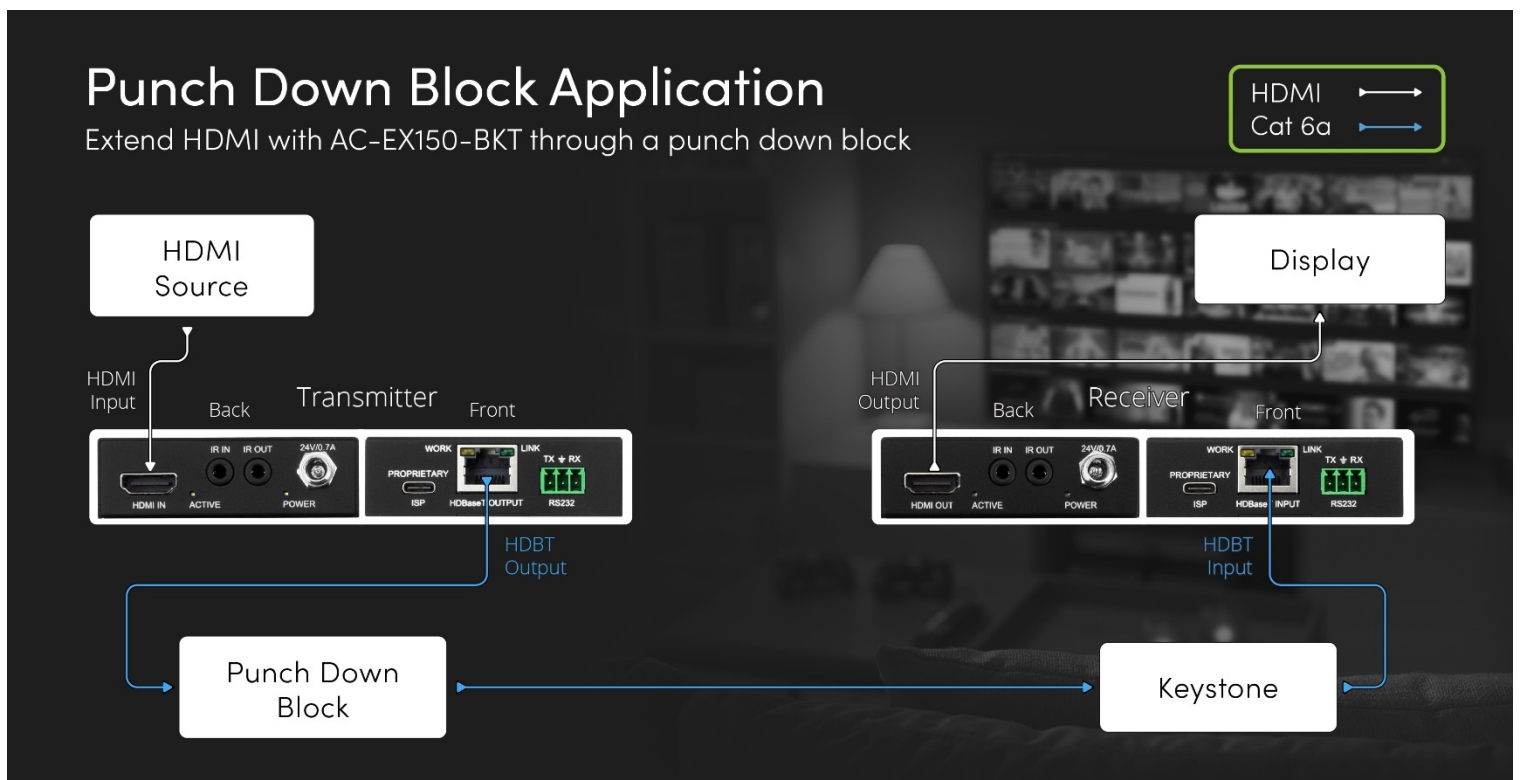
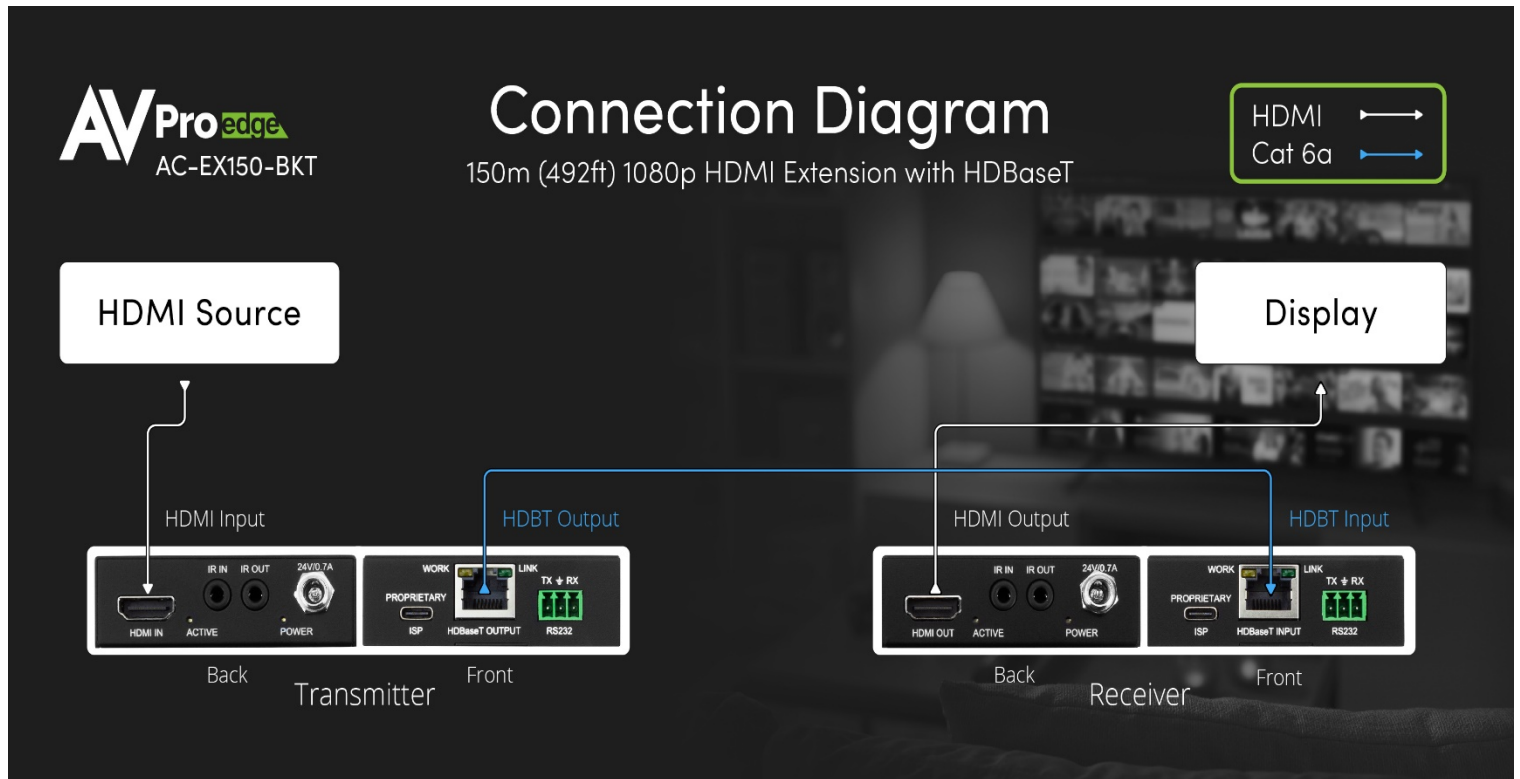
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Specifications

Video:	
Video Resolutions	Up to 4K/60 fps 4:2:0 & 4K/30 fps 4:4:4
VESA Resolutions	Up to DCI 4K (4096x2160)
Color Space	YUV (Component), RGB (CSC: Rec. 601, Rec. 709, BT.2020, DCI P3-D65)
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0 Supported
Deep Color	Up to 16-bit (1080) Up to 12-bit (4K)
Audio:	
HDMI Audio Formats Supported	PCM 2.0 Ch, LPCM 5.1 & 7.1, Dolby Digital, DTS 5.1, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio, DTS:X
Distance:	
HDBaseT Distance (4K & HDR)	100 m (330 Feet) (Cat 6a)
HDBaseT Distance (Full HD)	150 m (492 Feet) (Cat 6a)
HDMI Lead In/Out	Up to 50 ft (Using Bullet Train HDMI)
HDMI Lead In/Out (W/ AOC Cable)	Up to 130 ft (Using Bullet Train AOC)
Other:	
Bandwidth	18 Gbps
HDCP	HDCP 2.3 and earlier
Ports:	
HDMI (TX & RX)	Type A
HDBaseT	RJ45 w/ PoH for HDBaseT Receivers
IR RX (TX & RX)	3.5 mm stereo (3-conductor)
IR TX (TX & RX)	3.5 mm mono (2-conductor)
Power (TX & RX)	Barrel type
Environmental:	
Operating Temperature	23°F to 125°F (-5°C to 51°C)
Storage Temperature	-4°F to 140°F (-20°C to 60°C)
Humidity Range	5% to 90% RH (No Condensation)
Power:	
Power Consumption (Total)	16.8 Watts Max
Power Supply - Matrix	Input AC: 100-240 VAC ~ 50/60Hz Output DC: 24 VDC @ 0.7A
Dimensions:	
Dimensions (Unit Only Height/Depth/Width)	mm: 100 x 69 x 23 in: 3.94 x 3.72 x 0.91
Dimensions (Packaged Height/Depth/Width)	mm: 152 x 267 x 85 in: 6 x 10.5 x 3.35
Weight (Unit)	6.2 oz (0.39 lbs.) (0.17 kg)
Weight (Packaged)	18.08 oz (1.13 lbs.) 18.08 (0.51 kg)

*** Specifications subject to change without notice. Mass & dimensions are approximate**

Diagrams



Transmitter



Front



Back



Indicator Troubleshooting LEDs on the Transmitter:

POWER - On the front at the power supply input: (Blue). This indicates power is connected. There are only two states for LED:

- LED Is On = Power supply is connected and functioning
- LED Is Off = Power supply is not connected, or no power is present. Verify the PSU is plugged into an active VAC outlet.

ACTIVE (HDMI Status)- On the front at the HDMI Port: (Blue). This indicates an HDMI source is connected. Status for the LED:

- LED Is On (Flashing) = Sync w/ HDMI source and display is correct and solid

If the **BLUE HDMI STATUS (ACTIVE) LED** is flashing AND THERE IS NO IMAGE DISPLAYED, verify the following:

1. The source is functioning. If possible, connect directly to the display.
2. Change the resolution of the source device to 1080p or 4K/60Hz 4:2:0
3. Exchange HDMI cables between the Source and Transmitter
4. Use a 2-meter or longer HDMI cable. HDMI cables often fail to reliably sync in shorter lengths.
5. Contact AVPro Edge Technical Support if these suggestions do not work

LINK - At the RJ45 (HDBaseT) Port: (Green) Indicates the AV HDBaseT link between Tx and Rx is intact. This LED should ALWAYS remain solid. If this LED is flashing or not present, verify the following:

1. Category cable length. The maximum distances are 100 m (330 ft.) at 4K and 150 m (492 ft.) at 1080p.
2. Remove any coils of cable and make sure that there is not excess cabling.
3. Bypass all patch panels and punch-down blocks.
4. Re-terminate connectors. Cable testers verify continuity but not signal integrity. A continuity tester is insufficient to determine if a cable will be capable of supporting an HDBaseT signal.
5. Contact AVPro Edge Technical Support if these suggestions do not work.

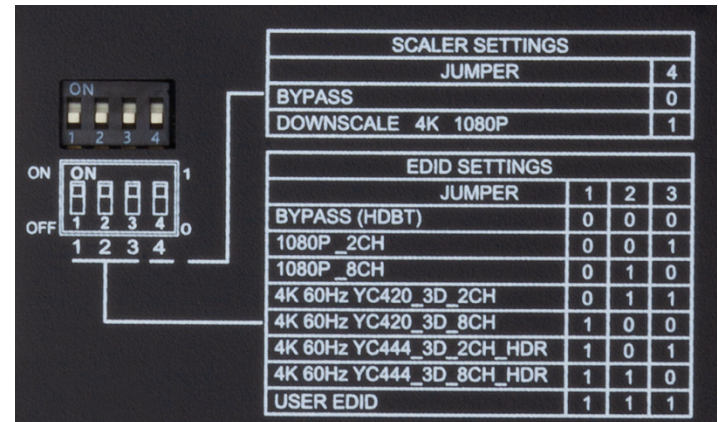
Functions & Setup of the Transmitter

EDID Management

With DIP switches on the bottom of the Transmitter
The first 3 are used to set the EDID

- ON/UP/1 1
- OFF/DOWN/0 0

EDID SETTINGS			
JUMPER	1	2	3
BYPASS (HDBT)	0	0	0
1080P_2CH	0	0	1
1080P_8CH	0	1	0
4K 60Hz YC420_3D_2CH	0	1	1
4K 60Hz YC420_3D_8CH	1	0	0
4K 60Hz YC444_3D_2CH_HDR	1	0	1
4K 60Hz YC444_3D_8CH_HDR	1	1	0
USER EDID	1	1	1



Copy EDID:

To COPY EDID from a sink device, move DIP Switches 1, 2, and 3 from OFF (down) to ON (up) at the same time while the connected sink device is powered on. The EDID will be saved until the process has been repeated (move 1, 2, and 3 all back to ON, then all 3 back to OFF).

NOTE: Moving DIP 4 does not affect the COPY EDID function. You may use a coin or similar flat object to move all dip switches simultaneously. Once copied, move DIP 4 back to the desired position if needed.

DIP Switch 4 is used to set the Downscaling

- OFF/Down/0 0 = Scaler Bypass/OFF
- ON/UP/1 1 = All 4K signals will be downscaled to 2K

4	JUMPER
0	Scaler Bypass
1	Down-scaled 4K > 2K

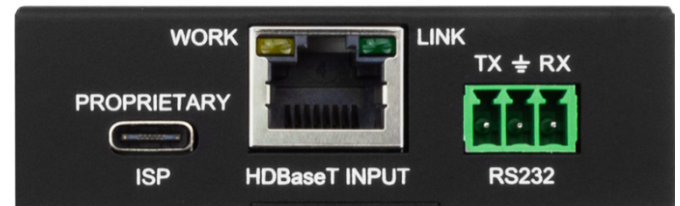
Receiver



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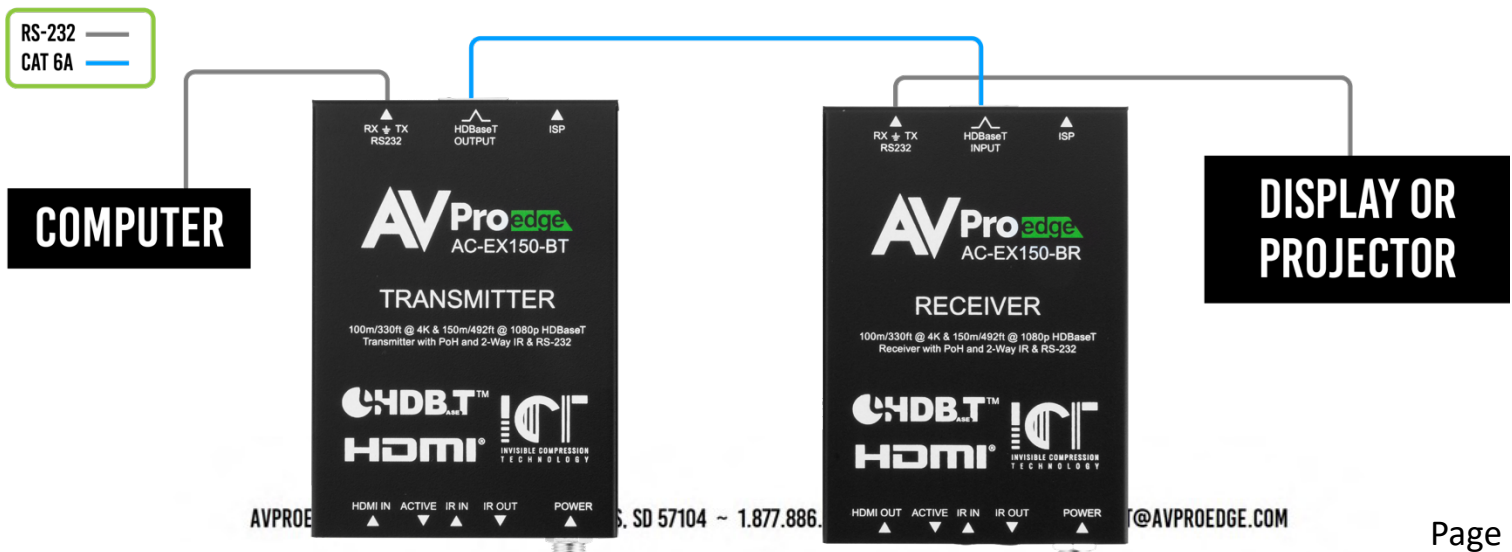
RS-232 Configuration

RS-232 can be used to pass control signals bidirectionally to and from RS-232-compatible devices. This is commonly used to route control signals in the following way:

1. Control System --> Display/Projector (i.e., Power On/Off)
2. Display/Projector --> Control System (i.e., Display Status, Volume Status etc...)
3. When ultra-long-range serial communication is needed (think concerts, live events), use the extender.



RS-232 CONTROL DIAGRAM



The unit comes with 3-pin Euroblock connectors.
Pinout configuration is: TX=Left, Center=Ground, RX=Right

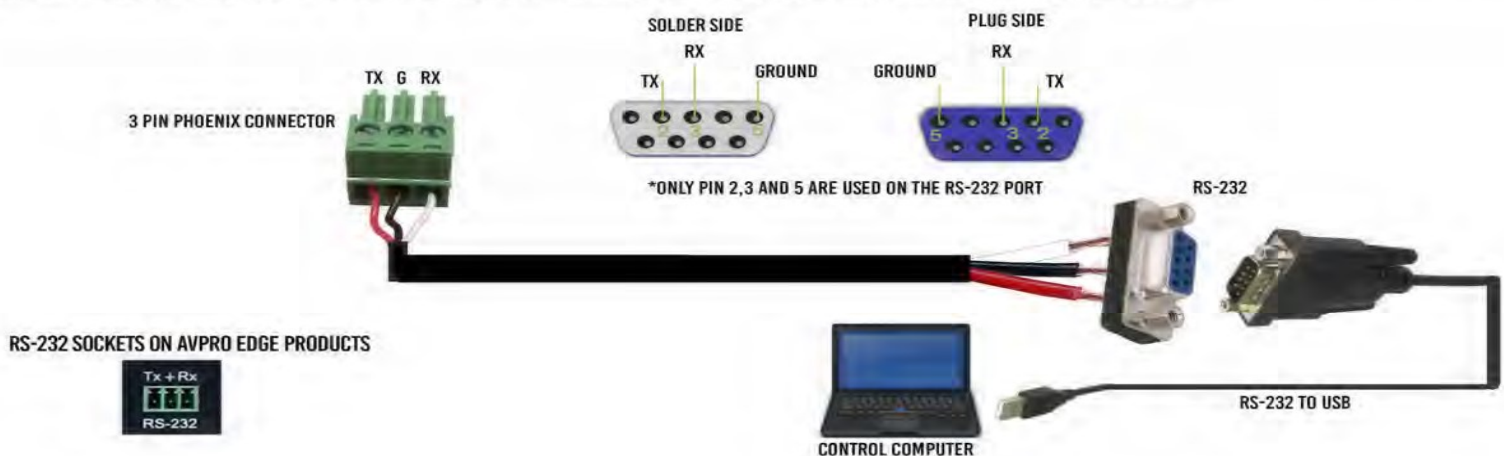


The cable should appear like the one to the right. If using the AC-CABLE-3.5-DB9F (Female) or AC-CABLE-3.5-DB9M (Male), When field configuring a cable, please follow the diagram below:



RS-232 CABLE FOR AVPRO EDGE

IN ORDER TO CONNECT YOUR COMPUTER TO THE SWITCH BY RS-232 YOU NEED TO MAKE YOUR OWN CABLE WITH ONE END A PHOENIX CONNECTOR AND THE OTHER END A RS-232 PORT. YOUR COMPUTER DOESN'T HAVE A RS-232 INPUT, GET A USB CONVERTER (AS SHOWN BELOW), AND PLUG THE USB END TO ANY COMPUTER



IR Configuration

IR can be used in two ways:

1. From Rack (Using an IR sensor): Plug the IR receiver sensor into the IR IN on the AC-EX150-BKT transmitter to pass infrared signals generated from a device or IR Remote.
2. From Remote End: Use an IR-receiver sensor on the AC-EX150-BKT receiver (IR In Port) to send IR signals back to the rack and out of the TRANSMITTER IR Out Port with an emitter.

***NOTE:** For best results, only use the provided IR sensors and emitters

■ IR Connections to AC-EX150-BKT (Transmitter)



IR INPUT (IR SENSOR)



IR OUTPUT (IR EMITTER)

■ IR Connections to AC-EX150-BKT (Receiver)



IR INPUT
(RECEIVER SENSOR)



IR OUTPUT
(IR EMITTER)

Troubleshooting

- Verify Power
- Verify Connections - Check that all cables are properly connected
- TX Indicator Troubleshooting Lights
- RX Indicator Troubleshooting Lights
- IR Issues - Verify correct connections
 - Flashing Emitters may not function properly. Use the IR emitters supplied with the kit if you are experiencing issues
- Still having issues, contact us

Support Direct - +1-605-977-3477

Maintenance

To ensure reliable operation of this product as well as protecting the safety of any person using or handling this device while powered, please observe the following instructions.

- Use the power supplies provided. If an alternate supply is required, check voltage, polarity and that it has sufficient power to supply the device it is connected to.
- Do not operate these products outside the specified temperature and humidity range given in the above specifications.
- Ensure there is adequate ventilation to allow this product to operate efficiently.
- Repair of the equipment should only be carried out by qualified professionals as these products contain sensitive components that may be damaged by any mistreatment.
- Only use this product in a dry environment. Do not allow any liquids or harmful chemicals to come into contact with these products.

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

Damage Requiring Service

The unit should be serviced by qualified service personnel if:

- The DC power supply cord or AC adaptor has been damaged
- Objects or liquids have gotten into the unit
- The unit has been exposed to rain
- The unit does not operate normally or exhibits a marked change in performance
- The unit has been dropped or the housing damaged

Support

Should you experience any problems while using this product, first, refer to the Troubleshooting section of this manual before contacting Technical Support. When calling, the following information should be provided:

- Product name and model number
- Product serial number
- Details of the issue and any conditions under which the issue is occurring

Warranty

If your product does not work properly because of a defect in materials or workmanship, AVProEdge (referred to as “the warrantor”) will, for the length of the period indicated as below, (Parts/ Labor (10) Years), which starts with the date of original purchase (“Limited Warranty period”), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor. During the “Labor” Limited Warranty period there will be no charge for labor. During the “Parts” warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

This warranty extends to products purchased directly from AVPro or an authorized dealer. AVPro is not liable to honor this warranty if the product has been used in any application other than that for which it was intended, has been subjected to misuse, accidental damage, modification or improper installation procedures, unauthorized repairs or is outside of the warranty period. Please direct any questions or issues you may have to your local dealer before contacting AVPro.

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This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Thank you for choosing AVProEdge!
Please contact us with any questions, we are happily at your service!



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